AMSAT News Service Weekly Bulletins
Issue: ANS-051
Date: 2011-02-20
Sources: amsat-ans-2011-ans-051-weekly.txt

AMSAT NEWS SERVICE
ANS-051

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:

ans-editor@amsat.org

In this edition:
* February 23 CubeSat Launch From Vandenberg AFB
* ARISSat-1 Update
* AMSAT India February 2011 Newsletter Published
* Satellite Operation From Canary Islands Special Event Station
* First Call for Speakers for AMSAT UK Colloquium 2011
* University Nanosat-6 Winner Announced
* Satellite Shorts From All Over
* Four Successful ARISS Contacts Held this Week

SB SAT @ AMSAT $ANS-051.01
February 23 CubeSat Launch From Vandenberg AFB

AMSAT News Service Bulletin 051.01
  From AMSAT HQ SILVER SPRING, MD.
February 20, 2011
To All RADIO AMATEURS
BID: $ANS-051.01

NASA will launch the Glory satellite, an Earth-observation satellite from Vandenberg Air Force base, California on February 23 at 0809 UTC. Secondary payloads include student cubesats from the University of Kentucky, University of Montana, and University of Colorado.

KySat-1, University of Kentucky

436.790 MHz Beacon and FM downlink
Commercial S-band downlink
http://ssl.engineering.uky.edu/missions/orbital/kysat1/about-kysat-1/

The primary mission objective for KySat-1 is educational outreach. For educational purposes KySat-1 can be commanded via mobile ground stations using amateur radio frequencies. Mobile ground stations will be taken to schools around the state for children to have their first direct interaction with a satellite. Grade K-12 students and their teachers will be able to upload/download images and audio files, and will also have the capability to command the satellite to take photos using ground station software developed by the University of Kentucky Space Systems Laboratory.

The KySat-1 Team is requesting amateur satellite operators listen for the 436.790 MHz beacon after launch. Amateur stations who copy packets or beacons are invited send their data (decoded packets, audio recordings, signal reports) to ssl@engr.uky.edu.

The FM modulated pseudo-CW beacon transmits every 5 minutes at 32 wpm. The message that will be transmitted is "KYSAT-1 ... followed by the battery voltage to the tenth volt, and the processor temperature to the hundredth degree C.

The FM modulated AX.25 encoded digital beacon transmits every 2.5 minutes. The digital beacon consists of a header, six binary-coded decimal numbers separated by commas, and a 8 "bit" bitfield consisted of eight ascii bytes showing either a "1" or "0". Full details of the packet format:
http://ssl.engineering.uky.edu/missions/orbital/kysat1/operations/

Explorer-1 [Prime], University of Montana

437.505 MHz Downlink 1200 bps KISS/Custom Non-Coherent FSK
Every 15 seconds worldwide
http://ssel.montana.edu/e1p/

The primary mission consists of critical space weather observations for space weather forecasting and specification. The cubesat will monitor the flux of trapped electrons in the horns of the inner and outer radiation belts of the Van Allen radiation belts.

The E1P telemetry beacon consists of essential state of health information and a quick look payload data product. The quick-look data consists of one second averages of the intensity of energetic particles encountered along the spacecraft trajectory as provided by our Geiger-Mueller Counter.

A telemetry decoder can be downloaded from:
http://ssel.montana.edu/e1p/?page_id=
Hermes, University of Colorado

437.425 MHz Downlink
http://spacegrant.colorado.edu/

The primary mission is to 1) Create modular and extensible satellite subsystems; 2) Utilize S-Band frequencies to communicate at higher data rates than those obtainable with Ultra-High Frequencies (UHF); 3) Characterize Hermes' orbital environment and satellite status to validate models and design.

The primary communication system for the satellite is a UHF system that transmits using a monopole antenna. The radio is a COTS Yaesu VX-7R which transmits telemetry data using a TNC that was built by students.

[ANS thanks the University of Kentucky, University of Montana, and University of Colorado for the above information]

/EX

SB SAT @ AMSAT $ANS-051.02
ARISSat-1 Update

AMSAT News Service Bulletin 051.02
From AMSAT HQ SILVER SPRING, MD.
February 20, 2011
To All RADIO AMATEURS
BID: $ANS-051.02

The ARISSat-1 satellite is still inside the ISS. Roscosmos has announced

that the satellite will be deployed during the next EVA in July of this year. The US team is trying to get clarification from Roscosmos about the "weak batteries" condition causing the satellite not to be deployed this week. The news item can be found on the Roscosmos web site, http://www.federalspace.ru/main.php?id=nid374 .

Roscosmos also announced that the satellite will be turned on inside the ISS and use an external antenna on 12 April 2011. This is to celebrate the 50th anniversary of Yuri Gagarin's first manned space flight. AMSAT will support this event and issue certificates to those stations reporting reception of the ARISSat-1 signals.

Tony Monteiro, AA2TX has an excellent article describing the ARISSat-1 power system using the Russian Olan suit battery in the upcoming AMSAT Journal that should be mailed to members next week.

[ANS thanks Gould, WA4SXM, for the above information]

/EX

SB SAT @ AMSAT $ANS-051.03
AMSAT India February 2011 Newsletter Published

AMSAT News Service Bulletin 051.03
From AMSAT HQ SILVER SPRING, MD.
February 20, 2011
To All RADIO AMATEURS
BID: $ANS-051.03

AMSAT India Secretary Nitin, VU3TYG advises that their February 2011 news letter is available for download. A PDF copy has been posted at:
http://amsatindia.org/Newsletter/AMSATINDIA-News-February2011.pdf
AMSAT India newsletter archives can be found on-line at:
http://www.amsatindia.org/Newsletter

Content of the February 2011 Newsletter includes:
1. Update on the Technical talk held on January 30th
2. Update on the Cubesat Transponder project by AMSAT INDIA.
3. Azimuth Elevation Rotator - A Homebrew approach by VU2POP
4. News from AMSAT organizations worldwide

[ANS thanks AMSAT India Secretary Nitin, VU3TYG for the above information]

/EX

SB SAT @ AMSAT $ANS-051.04
Satellite Operation From Canary Islands Special Event Station

AMSAT News Service Bulletin 051.04
From AMSAT HQ SILVER SPRING, MD.
February 20, 2011
To All RADIO AMATEURS
BID: $ANS-051.04

EG8ISS in the Canary Islands will be active on both HF and the
Amateur Radio satellites between between February 12 through
March 11 from Las Palmas, Gran Canaria.

Activity is to celebrate/publicize the first ARISS (International
Space Station) contact with one of the "Institute for Technological
Development and Innovation in Communications" (IDeTIC) facilities
on campus.

The special event station will be on the HF bands, 40-10 meters,
using CW, SSB, RTTY, PSK31 and SSTV. Also, activities are planned
for VHF (2m FM local and R7 repeater) and the satellites (AO-27,
SO-50, AO-51 and VO-52).

There is a special QSL card designed for this event that will be
automatically mailed to your QRZ.com address.

More info is available on the QRZ.com under EG8ISS. A Twitter page
is also available at: http://twitter.com/eg8iss

[ANS thanks Ted, K7TRK and the SouthGateARC News site for the
  above information]

/EX

SB SAT @ AMSAT $ANS-051.05
First Call for Speakers for AMSAT UK Colloquium 2011

AMSAT News Service Bulletin 051.05
  From AMSAT HQ SILVER SPRING, MD.
February 20, 2011
To All RADIO AMATEURS
BID: $ANS-051.05

This is the first call for speakers for the AMSAT-UK Colloquium 2011
which will be held at the Holiday Inn, Guildford, UK from July 29 to
July 31, 2011. This is the same venue as in 2010.

AMSAT-UK invite speakers, about amateur radio, space and associated
activities, for this event.

Offers of talks should be sent ONLY to G4DPZ, via the following
routes:
e-mail: david.johnson AT blackpepper.co.uk
SnailMail: QTHR from www.QRZ.com

AMSAT-UK also invite anyone with requests for Program Topics to submit
them as soon as possible to G4DPZ. Invitations for specific subjects
will be included in the future call.

Likewise if anyone knows of a good speaker, please send contact and
other information to G4DPZ.

[ANS thanks Dave, G4DPZ for the above information]

/EX

SB SAT @ AMSAT $ANS-051.06
University Nanosat-6 Winner Announced

AMSAT News Service Bulletin 051.06
  From AMSAT HQ SILVER SPRING, MD.

February 20, 2011
To All RADIO AMATEURS
BID: $ANS-051.06

The team from the Houghton, Michigan college won first place in this year's University Nanosat Program (UNP) Nanosat 6 competition with their Oculus-ASR nanosatellite. The UNP competition was conceived in 1999 as a means to "sustain and promote university research and education focused on small satellites. This program was developed by the Air Force Office of Scientific Research (AFOSR) in conjunction with the Air Force Research Laboratories Space Vehicle Directorate (AFRL/RV). For this competition a nansat is defined as 50kg in mass (or less) and 50 x 50 x 60 cm or smaller.

The name Oculus comes from its operating as an "orbiting eye" for the Department of Defense. The DoD (and many other organizations) have a vested interest in the observation and tracking of the many asteroids neighboring the earth.

According to the MTU Aerospace Enterprise team blog Oculus-ASR should launch in 2013. The MTU nanosat has shape-shifting capabilities that are important to ground-based observations and measurement. Imaging of the asteroids and other space objects will then be compared with ground-based observations too. The Oculus-ASR's work will be of great importance to the DoD's need to know what is orbiting the earth and what those

objects are doing.

[ANS thanks AFRL and Michigan Tech News for the above information]

/EX

SB SAT @ AMSAT $ANS-051.07
Satellite Shorts From All Over

AMSAT News Service Bulletin 051.07
From AMSAT HQ SILVER SPRING, MD.
February 20, 2011
To All RADIO AMATEURS
BID: $ANS-051.07

+ Robb, N0KGM has posted a two way video capturing a ham radio contact both with Doug Wheelock on the ISS and his home QTH at the same time at: http://vimeo.com/19854803

+ Roland PY4ZBZ has a very interesting web page showing reception and telemetry decoding of several satellites. This page also has a grid map showing the 36 wet grid squares with contacts with Yuri, UT1FG/MM during his ocean voyage around South America: http://www.qsl.net/py4zbz/satelite.htm#y

+ KA1SKY Ham Radio Station was dedicated on February 14, 2011 at the McAuliffe-Shepard Discovery Center, Concord, NH in conjunction with the Contoocook Valley Radio Club (CVRC) and the New England Amateur Radio Festival (NEAR-Fest). This includes an amateur radio station KA1SKY with full operational capabilities. KA1SKY has been heard operating the amateur radio satellites. (Nick, KB1RVT)

+ Photos of Commander Dimitri Kondratyev with the Kedr/Arissat satellite connected inside the ISS on 10 February can be found at: http://www.federalspace.ru/main.php?id)3 (Andy, G0SFJ)

+ A video of Earth-Moon-Earth (EME) Amateur Radio station HB9MOON
has been released showing a Moonbounce demonstration dedicated to
the Google Science fair experiment, "How do you measure the dis-
tance between Earth and the Moon?" The video is on the SouthGate
site at: http://tinyurl.com/6kmr7nf

+ A new schedule was uploaded to AO-27 on February 5. Users of the
AO-27 Java schedule lister should make sure they update their
data files. The schedule lister is available for download at:
http://sites.google.com/site/ao27satellitescheduler/
(George, KA3HSW)

+ Dimitrios, SW1JGW has posted a video of VO-52 satellite reception
using Genesis G59 software defined radio with a TenTec 1210 10M to
2M transverter at: http://www.youtube.com/watch?v=Ih2bOs34I

[ANS thanks everyone for the above information]

/EX

SB SAT @ AMSAT $ANS-051.08
Four Successful ARISS Contacts Held this Week

AMSAT News Service Bulletin 051.08
From AMSAT HQ SILVER SPRING, MD.
February 20, 2011
To All RADIO AMATEURS
BID: $ANS-051.08

On Thursday, February 10, an Amateur Radio on the International Space Station (ARISS) contact was held between astronaut Paolo Nespoli, IZ0JPA and Istituto Comprensivo Statale "E. Fermi - A. Oggioni," Villasanta, Monza Brianza, Italy via telebridge station VK5ZAI in Australia. During the ISS pass Nespoli answered 19 questions and exchanged greetings with the youth. An audience of approximately 200 students and others were on hand for the contact and afterwards, students sang the well known hit "Volare" which means "To fly." Regional and local media and newspapers covered the event and streaming video, provided by AMSAT-Italia, received 80 connections.

On-orbit astronaut Cady Coleman, KC5ZTH participated in an ARISS contact with Lake Silver Elementary School students in Orlando, Florida on February 10 via radio station LU8YY in Argentina. Coleman answered 14 questions as a large crowd of students, parents and guests gathered for the event. The school put together a compre-hensive education plan to compliment this ARISS contact.

An ARISS contact was held between Lillestr0m videreg0ende skole, Lillestr0m, Norway and Cady Coleman, KC5ZTH on the ISS on Friday, February 11. Station W5RRR in Houston, Texas handled the radio connection. Over 150 people assembled for the event and listened as the astronaut fielded eight questions, mainly in Norwegian. The contact was the highlight of a science and applied technology curriculum.

National Institute for Astrophysics - Astronomical Observatory of Bologna, Bologna, Italy took part in an ARISS contact on Saturday, February 12 via telebridge station LU8YY in Argentina. Italian astro-naut Paolo Nespoli, IZ0JPA participated from the ISS, answering 16 questions. Approximately 150 people were present for the contact which occurred during the Bologna science festival, "Scienza in Piazza," held February 3 - 13. The festival focuses on schools, promoting

science through hands-on exhibitions and conferences and is backed by the Italian Space Agency (ASI). Regional and local media and newspapers covered the event.

The audio from all contacts was available on EchoLink and IRLP (Internet Radio Linking Project).

[ANS thanks Carol, KB3LKI, for the above information]

/EX

In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

73,
This week's ANS Editor,
Lee McLamb, KU4OS